

***TekConSer***  
**Installation & Configuration Guide**  
**Version 1.2**

## Document Revision 1.2

<http://www.tekivr.com/>

TekConSer is built by Yasin KAPLAN

**Read “Readme.txt” for last minute changes and updates which can be found under application directory.**

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## **Introduction**

TekConSer is a SIP Conference Server (*Based on RFC 3261*) runs under Windows (*XP, Vista, 7, 2003-2008 Server*). Visit <http://www.TekIVR.com/> regularly for updates.

Major features:

- Simple, easy to use interface.
- You can select your own waiting message (*It must be a wav file in 16 bit per sample, 1 channel and 8000 Hz sampling frequency*).
- Supports G.711 A - Mu law codecs.
- Supports NAT traversal. TekConSer also supports UPnP.
- You can monitor active SIP calls in real-time and hangup selected calls in a conference.
- Supports registration of multiple conference IDs to SIP servers.

TekConSer uses UDP port 5082 and above for RTP traffic and UDP port 5080 for SIP signaling. Signalling port may be changed through GUI. You need to add necessary mappings to your router for incoming RTP traffic if TekConSer installed behind a NAT gateway which does not support UPnP.

Freeware version supports maximum 3 endpoints per conference.

## **System Requirements**

TekConSer requires Microsoft .NET Framework 2.0 installed with the latest patches. Pentium IV class CPU with 512 MB of RAM is ideal for most configurations.

## **Installation**

Unzip “TekConSer.zip” and click “Setup.exe” comes with the distribution. Follow the instruction of setup wizard. Setup will install TekConSer Manager and TekConSer Service, add a shortcut for TekConSer Manager to desktop and the start menu.

## **Configuration**

Run TekConSer Manager from Start Menu / Program Files / TekConSer. TekConSer automatically configures itself at first run. TekConSer selects first available IPv4 address to listen and make a reverse lookup of that IPv4 address to obtain SIP domain information. If TekConSer cannot resolve selected IP address to an alphanumeric FQDN address, selected IPv4 address is used as SIP domain.

TekConSer also checks if it is installed behind an UPnP supported NAT gateway. If so, TekConSer automatically detects external IP and display it on status bar. TekConSer also adds a reverse mapping for incoming UDP connections automatically (*Default UDP port 5080*).

## Settings Tab

Click Settings Tab to start configuration.

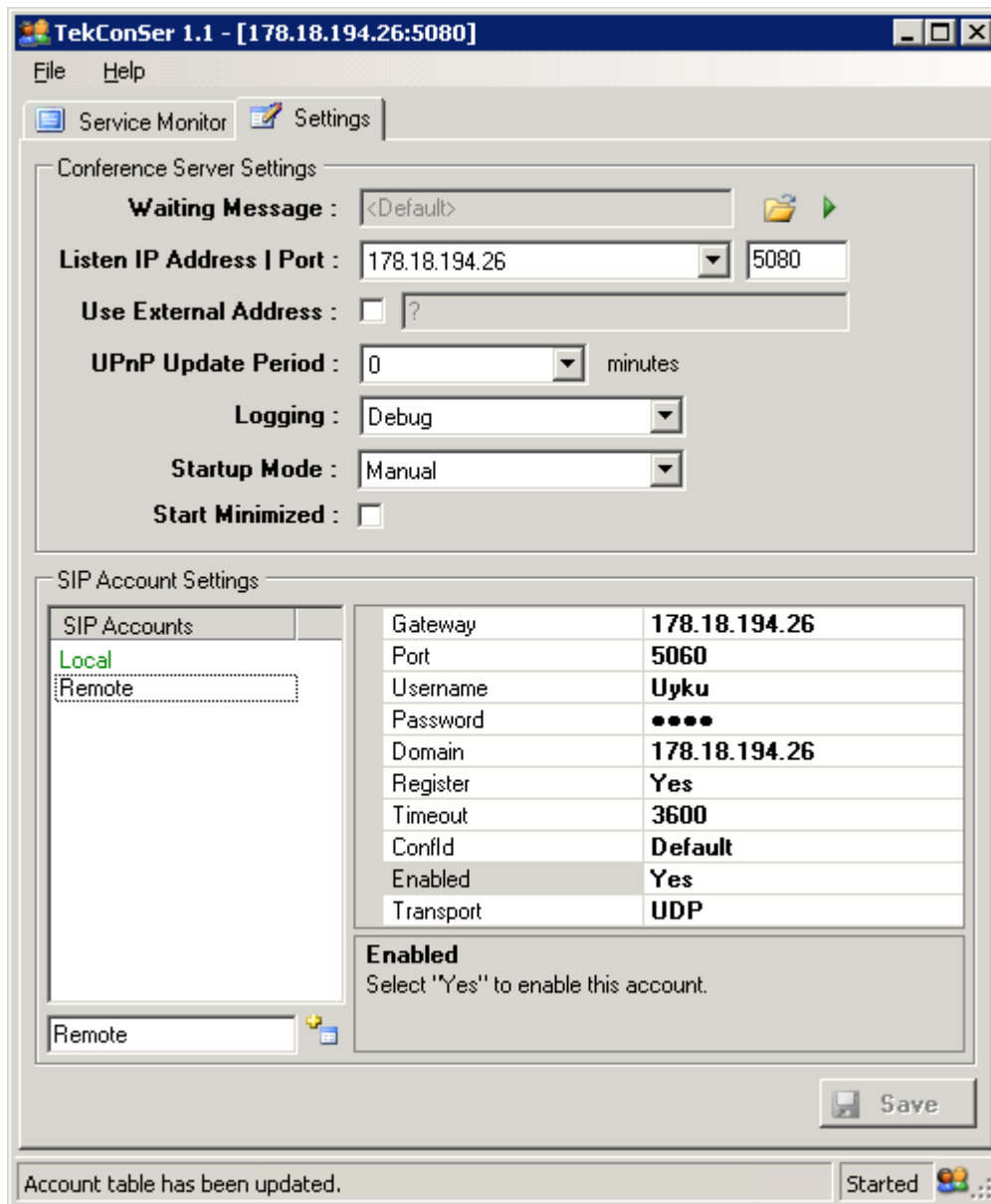


Figure - 1. TekConSer Settings

Enter following information for Conference Server Settings:

- **Welcome Message:** You can optionally select your own recorded welcome message which will be played when incoming calls arrives. File format must be 16 bit per sample, 8 KHz and 1 channel.
- **Listen IP Address | Port:** You can select a detected IPv4 address configured on your system. When you change IP configuration of your system, the IP address list will automatically updated. You can define a port number to be listened (*Default 5070*).
- **Use External Address:** If TekConSer is installed behind a NAT gateway which does not UPnP you can set external IP address manually for NAT traversal. If your NAT gateway supports UPnP set UPnP Update Period to value greater than “0”.

- **Logging:** Select logging level of TekConSer. Select “None” if you do not want logging, select “Errors” to log errors and select “Sessions” to log session information and errors. Log files are located under <Application Directory>\Logs directory.
- **UPnP Update Period:** You can specify period of querying UPnP Internet Access Gateway. Set “0” to disable UPnP support.
- **Start Minimized:** If you select “Start Minimized” TekConSer will start minimized to system tray. Double click tray icon to maximize TekConSer.

You can configure SIP Accounts for Conference IDs. Type a SIP Account name to left bottom text box and click add button right to it. Enter following information for a SIP account.

- **Domain:** Enter a FQDN or an IP address of your SIP domain. You have to configure a valid SIP domain for proper operation.
- **Gateway:** Enter an IP address or FQDN of your SIP gateway or proxy. Please make sure that this address is resolvable by your SIP client and has a valid entry (*an A record*) in your DNS server if you enter a FQDN. You have to configure a valid SIP proxy for proper operation.
- **Port:** Enter signaling port for the SIP server. Default value is 5060.
- **Transport:** Select transport for this SIP server (*TCP or UDP*).
- **Enabled:** Select “Yes” to enable this SIP account.
- **Register:** SIP endpoint registration is disabled by default. If this option is enabled TekConSer tries to register itself to configured SIP Domain.
- **Timeout:** Set registration timeout for this SIP account. TekConSer will re-register after timeout.
- **ConfId:** Select conference ID for this SIP account. Incoming calls for this SIP account will be directed selected conference.
- **Username:** You must specify a SIP endpoint ID for TekConSer. If incoming calls are not destined to the number specified in Account ID parameter, TekConSer will reject the calls. This ID is also used by TekConSer while registering to SIP registrar.
- **Password:** If SIP registrar requires password authentication specify password.

If you click [Save] button setting will be saved and activated immediately. Registered SIP account will be displayed in **green** color.

## **Service Monitor**

You can monitor active calls through service monitor tab. You can clear log entries by right clicking on Call Log.

You can add conferences through service monitor. Enter an ID and maximum number of recipients for the conference and click Add/Update button. TekConSer supports maximum 8 nodes per conference. TekConSer automatically adds a default conference allowing 8 participants at first run. Click conference entry to see active participants. You can hang up selected peers in the participants list.

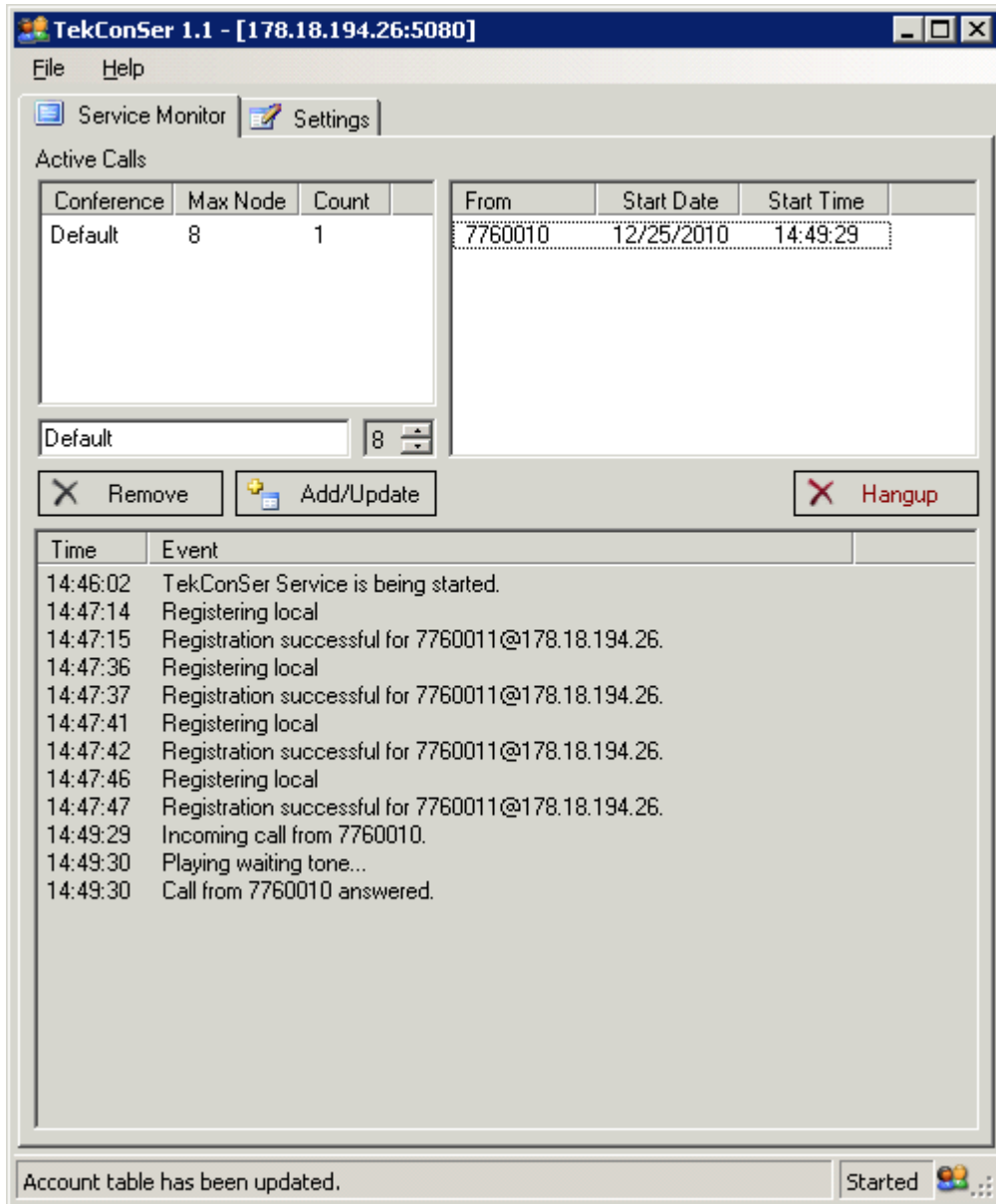


Figure - 2. Service Monitor Tab

## **Troubleshooting**

TekConSer provides many messages when problems occur. You can see error messages on TekConSer Status bar or in the log file of TekConSer service. You can enable logging in Settings Tab. There are three levels of logging; None, Errors, Sessions. If you select Errors TekConSer logs just error messages. If you select Sessions both Session and Error messages will be logged. You have to save or apply settings changes if you change logging level setting. Log files are located under <Application Directory>\Logs directory.

## **TekConSer Messages**

**TekConSer started. Listening on x.x.x.x.**

This message notifies that TekConSer service is started.

**Listened IP Address is being changed from x.x.x.x to y.y.y.y.**

TekConSer has detected a change in system's IP configuration and automatically changed listened IP address. You might change or remove the IP address configured for listening.

**An invalid IP address was specified for Listen IP. Listen IP changed to x.x.x.x**

There is a problem with the Listen IP address configured for TekConSer. Check your configuration.

**DNS Client could not be initialized.**

TekConSer can not bind internal DNS client to a suitable UDP port. Restart your system and try again.

**Settings could not be loaded. Initializing with default values.  
TekConSer Service is being started with default values on : x.x.x.x**

You get this message at first run of TekConSer. If TekConSer can not find or read TekConSer.ini initialize itself with default settings.

**Unable to initialize UDP/TCP thread [x.x.x.x:5060]  
Could not start any of TekConSer threads; exiting...**

If another application is configured to use same UDP/TCP port with TekConSer, TekConSer can not initialize respective thread. If both threads, TCP / UDP, can not be started, TekConSer service will terminates itself.

**New setting(s) applied and activated. Check default route.**

There is a problem with the IP address or FQDN of the default route.

**Hanging up conference peer [Conference : ConferenceID].**

Active conference endpoint is being disconnected upon receiving command from the GUI.

**Conference has been terminated (ConferenceID)**

Conference terminated since there is no endpoint in the conference.

**Bad Request URI**

Request URI is invalid in received SIP request. Check RFC compliance for the SIP UA.

**NAT Error**

Remote endpoint is behind a NAT gateway but its real IP address could not be detected.

**Multiple To/From Header Found in SIP Packet**

Check To/From headers of the received SIP packet.

**Malformed To/From Header Found in INVITE Request**

Check To/From headers of the received SIP INVITE request.

**Multiple CallID Header Found in SIP Packet**

Check CallID header of the received SIP packet.

**Malformed CSeq Header Found in SIP Packet**

Check CSeq header of the received SIP packet.

**Malformed Contact Header Found in SIP Packet.**

**Multiple Contact Header Found in SIP Packet**

Check Contact header of the received SIP packet.

**Malformed Content-Length Header Found in SIP Packet.**

Check Contact header of the received SIP packet.

**General Syntax Error Found in SIP Packet**

There is a syntax problem in the received SIP packet. Check RFC compliance.

**TekConSer is behind a NAT gateway, detected external IP Address**

TekConSer has been detected existence of an NAT gateway and detected the external IP address for the network

**TekConSer is behind a NAT gateway, detected external IP Address is not valid**

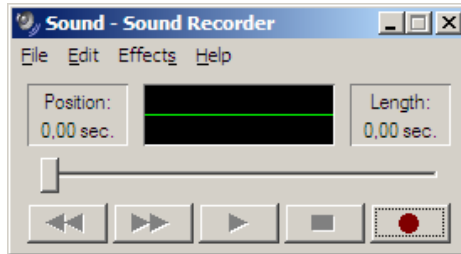
TekConSer has been detected existence of an NAT gateway and but detected external IP address for the network is not valid.

**Can not apply changes; enter minimum configuration**

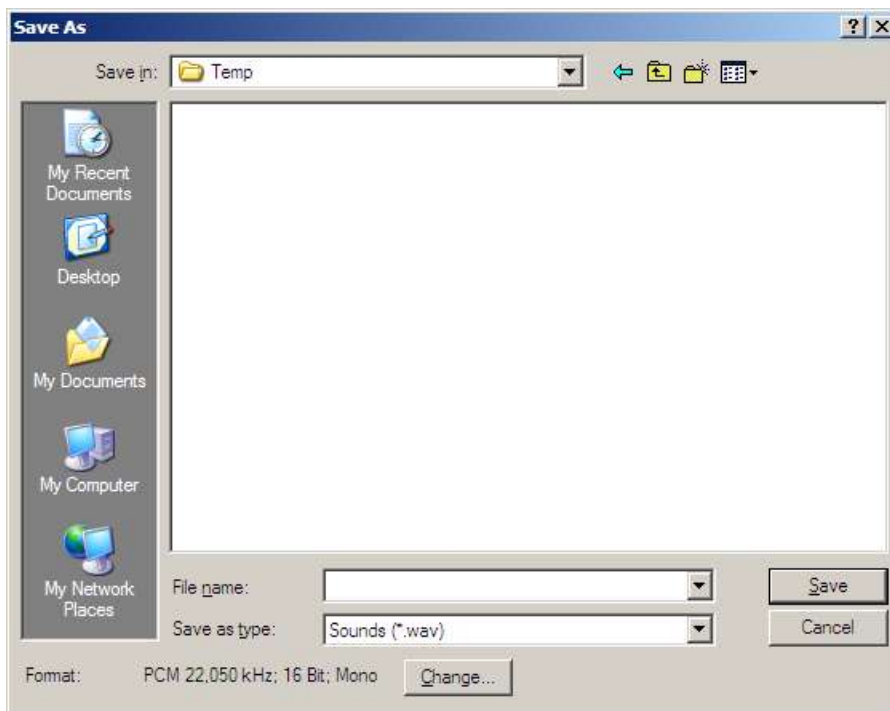
There is missing configuration data.

## How to Record a Custom Waiting Message

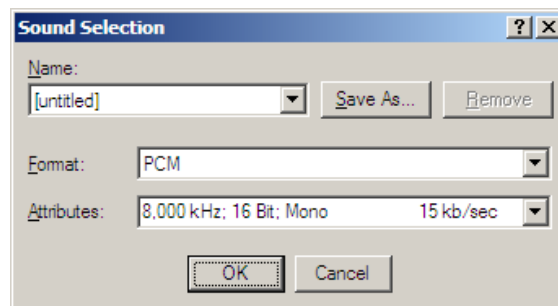
You can use Windows Sound Recorder to record a custom waiting message. Windows Sound Recorder can be run from “Start/Programs/Accessories/Entertainment/Sound Recorder”.



Click record button to start recording. Click stop button after finishing. Select “File/Save As” option from File menu.



Click “Change” button to change file format.



Select “PCM” as format and select “8,000 kHz; 16 Bit; Mono 15 kb/sec” from the attributes list. Click OK to accept settings and then click “Save”.